Photo by Matthew Thomas

My Mech-on Spacer Pass and Landing

By Lt. Mike DePalma

Back in intermediates in Meridian during my student days, I was one of a group of T-2 and A-4 students known as the "hybrid" class. I flew half the T-2 syllabus, up to my first cruise-form flight, before I was sent down the hall to VT-7. I had the fortune, or misfortune—depending on how you look at it—to miss the gun pattern, CQ and the rest of the T-2 program because of maintenance downings and delays in the pipeline.

One month into my first WestPac, as a nugget on USS *Constellation*, I started to feel comfortable flying under blue-water conditions. After two nice port calls in Australia, the ship pressed to the Gulf on a course that called for 15 days of blue-water ops. I was scheduled for an air-to-air gunnery hop with eight planes from several squadrons. The Tomcats would tow the banner.

I felt apprehensive as I walked into my first

guns brief, especially with live bullets in the nose. The brief was thorough, as the Tomcat RIO explained the inner workings of a dynamic pattern that I would be seeing for the first time. My XO assured me he would be sticking to the numbers, since he hadn't flown a gun pattern in a long time. We walked to the flight deck with two priorities: not to shoot down anyone and to keep the banner intact for the third and fourth section of aircraft.

As I read the maintenance book, I noted I would be flying 403 that day. It didn't seem like it could get any better. Big blue sky, bullets in the nose, and my name on the aircraft to top it all off. However, the book had two up-gripes for flight-control computer problems (the flight computer was hot on deck). The jet had gone down on deck twice for these problems. The computers had been swapped out, and on my start, there were no abnormal indications. I rogered a 43k board and took the shot off cat 4 with the usual grin on my face. As I cleared the shuttle, I heard the "deedle deedle" aural-caution tone familiar to all Hornet pilots. I had an X'd out left stab in channels two and three, with a bit-logic (BLIN) code of 333.

I climbed to altitude and told the XO about my problem. We agreed I would go for the reset at 10,000 feet, and, if it cleared, we would press on with the mission. The caution and BLIN code cleared, and we proceeded to hold over the tractor and wait our turn to enter the pattern. We had picked up a super spare at that point, Dash 3 (my former instructor from the RAG in San Diego) who was now CVW paddles.

As the Marines finished on the tractor, my XO led us down to set up 90 degrees off the spacer-pass heading. I followed his break into the pattern with a seven-second interval and picked up the tractor at my right one o'clock. I felt left-stick pressure as the jet ramped up to 440 knots at 10,000 feet. I found this to be curious because the jet was goofy gas on stations five and seven. I watched my XO pull up into the pattern, and, as I approached the banner, I called, "Falcon Four Zero Three. In spacer pass left, perch right."

Just as my XO was about to reverse high, I heard, "Deedle, deedle," and "Flight computer hot." Right at the "Deedle, deedle," the jet twice rolled violently to the right, with a corresponding 25-degree, nose-down pitch and a negative 1.6G spike. I was heading toward the tractor and my XO was coming to bear with live bullets in the nose.

I tried to right the aircraft with full-left stick and left rudder as it plunged through an undercast at 9,300 feet. After a couple of choice words to myself over the ICS, I called, "Falcon Four Zero Three is out of control passing nine-thousand feet." The Tomcat crew called a red range as the XO brought his nose up and leveled off above the tractor. Dash 3 saw my departure from a mile-and-a-half and followed me through the undercast. He gave me a great altitude call as I descended toward 8,000 feet. I saw this altitude staring at me while I started to regain control of the jet. I now focused on my left DDI and confirmed my worst fears: mechanical reversion ("mech on"), with a total failure of the stabilators. Every channel was X'd out, and the BLIN display listed too many codes to remember. I called, "Mech on," as I turned east to clear the tractor, which I no longer could see. While the jet started climbing, the flight controls became very sensitive. Control authority was sluggish at best. The stick was way back in my lap, as advertised in NATOPS. I was happy just to be in control and flying. I elected not to reset the trim button to recenter the stick.

My XO took over reading the NATOPS pocket checklist to me, and we arrived at the moment of truth. As I tried to reset the failure, I remember thinking there was not much chance of this working because of all the events that had led up to this point. I was right. As I hit the reset button, the stick kicked sharply to the right, and the jet pitched nose down and to the right. I leveled the jet and told my XO we would not be trying that again.

We were about 70 miles from the ship at 25,000 feet. We contacted strike and told them we had a major flight-control failure and departure. We needed a rep and most likely a pull forward. I had 7,500 pounds of JP in the jet, and we were operating 650 miles from any available piece of concrete. Strike seemed to have difficulty understanding our predicament, so we told them we were switching marshal. My XO handled the radios as my best efforts were spent flying the airplane. We basically got the

same treatment from marshal as they struggled to understand the significance of my emergency. Finally our Dash 3 came up and told marshal we had a time-critical emergency in progress, and they should alert a senior squadron rep. We switched tower and talked to the boss and our rep; they had 35 years combined flying experience.

My rep advised me to check controllability to see if I could handle the aircraft in the landing configuration. If I hadn't already known the severity of the situation, I would have figured it out from the level of attention it was getting—I heard CAG, DCAG and my skipper's voices in the background. My first order of business was to reduce the asymmetric stores, which consisted of my right drop tank. I set up the select jettison and punched the tank: $31,000 in the hole already. The jet flew fine dirty. The stick would not recenter with the trim button, and it was very close to the ejection handle as I trimmed the jet on speed. My rep asked me if I felt comfortable trying to bring it aboard. I felt like one try was worth the effort, especially since a 600-mile transit to some little-known Indian Ocean island was not high on my list of ways to spend my afternoon.

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I dumped down to 4,500 pounds and started the approach. The jet's pitch response was slow, but my real concern was lineup corrections. These corrections were more difficult to make in my present situation because of the large adverse yaw when flying the Hornet in mech. CVW paddles (another former RAG instructor of mine) came up on the pickle at 10 miles and told me to hawk my lineup early. If they decided to get rid of me, they would do it early.

The last radio transmission I made was at three miles as I told the boss I was established. The next thing I heard was the boss calling the plane-guard helo pilot and asking him to remain as close to the ramp as possible. The pilot responded with a somber, "We are ready and close aboard on the starboard side, sir."

I do not remember the pass exactly, but I remember trying to call the ball with a chipper voice. I picked up little right-to-left drift and tried to make the correction in close. I added power as the jet labored to the right—too much power, it turned out, as I watched the ball start to rise. Realizing that I did not want to try this again, I quickly pulled off the power as I gave the wings a little waggle in true Hornet DLC fashion. With the power back at military, I came off lineup and back to the ball to see it south of the datums and going down in a hurry. At that moment, the hook picked up the ace on the fly, and I was aboard. Never pass up a good wire, right? I breathed a sigh of relief as the admiral, captain, and CAG all congratulated me for completing one of only a handful of fleet, shipboard mech-on landings.

I learned several things that day. First, always know the maintenance history of the jet you're manning up. The ADB can tell you a lot of things, but it will tell you nothing if you just skim the up-gripes.

Second, listen to what the jet is telling you. After my first caution off the cat, the jet was difficult to trim and something definitely did not feel right. The mechanical reversion takes approximately three-point-four seconds to clear out the stab position in order for the stabs to fair and be controllable. My insistence to complete the mission and finally get the gun pattern under my belt could have been disastrous had mechanical reversion occurred after my pull to the high-reversal position.

Third, always know your current divert. Even though we were blue water, I could have ended up at a remote landing strip about which I knew nothing. A quick glance at a chart before the brief can add provide situational awareness to your flight and provide options when the NATOPS says there are none.

Lt. DePalma is an LSO and flies with VFA-137.